

SONY

3-786-051-43 (1)

Video Camera Recorder **8**

CCD-F340E

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



Video 8

Handycam

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltages are present inside the unit. Do not open the cabinet. Refer servicing to qualified personnel only.

Please refer to the illustration corresponding to the letter code indicated in the instructions.

Notes

- For "once-only" events, it is strongly recommended to have a trial run to check that everything is working perfectly.
 - Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.
 - PCM recording/playback is not possible with this unit. The PCM sound recorded or after-recorded with another recorder cannot be played back with this unit.
 - For using the recorder abroad, see page 42.
 - The following units are packed with the CCD-F340E video camera recorder.
 - Battery pack NP-55
 - AC power adaptor AC-V30
 - RFU adaptor RFU-89EA/ASA
 - Shoulder strap
 - (8mm cassette tape)
- For details on these units, please read their instruction manuals.

This unit uses 8 mm video format cassettes. It records in the SP mode (approximately 20.051 mm/second) and the LP mode (approximately 10.058 mm/second) and can play back in the SP mode and LP mode. The quality of the playback picture in the LP mode, however, will not be as good as that in the SP mode.

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PLAYER Operation

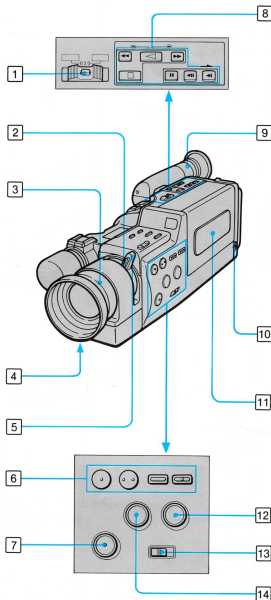
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A-1



For details on the use of each control, refer to the pages indicated in the circle.

A-1

1 POWER switch

CAMERA: For camera recording

PLAYER: For playing back or editing tapes

OFF: Power off

2 Macro set button 25

3 Focus ring 15

4 START/STOP button

Used for low angle recording.

5 Zoom lever 25

6 SUPERIMPOSE buttons 20

Used to record the title.

TITLE 1 button

TITLE 2 button

MEM (memory) button

COLOR button

7 BACK LIGHT button 22

8 Tape transport buttons

◀ (playback)

◀◀ FF (fast forward)

▶▶ REW (rewind)

■ (stop)

|| (pause)

◀||| (frame-by-frame)

◀| (slow)

9 Viewfinder 15

The picture being recorded or played back can be monitored in monochrome here. Also, data such as caution indicators and function mode are displayed on the viewfinder screen.

10 BATT (battery eject) knob 1

11 Cassette holder

12 SHUTTER SPEED button 25

Used to select the shutter speed.

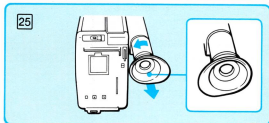
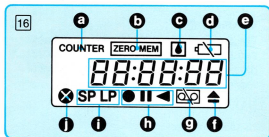
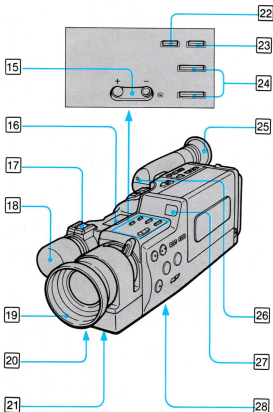
13 AUTO LOCK switch

Normally set to the left AUTO LOCK position.

14 FOCUS button 15

Used for manual focusing.

A-2



A-2

15 EDIT/SEARCH button 16, 17

16 Display window 16

a COUNTER indicator

b ZERO MEM (memory) indicator

c Moisture condensation inside the unit.

d Blinks when the battery is weak.

e Indicates the time, date, or the tape counter.

f Lights steadily during cassette ejection.

g Blinks when the unit cannot function normally.

h Lights steadily when no cassette is inserted.

i Blinks when the tape approaches its end or the safety tab of the inserted cassette is slid out (red).

j Tape operation mode indicators

i Tape speed indicator

i Blinks when the slit in the head is clogged.

17 Accessory shoe

Attach an optional external microphone, video light, etc.

18 Built-in microphone (monaural)

19 Lens hood

20 Infrared beam detector

The infrared beam reflected from the object to be shot is received here during auto focusing. Do not cover here.

21 Infrared beam emitter

Transmits an infrared beam toward the object to be shot during auto focusing. Do not look into it for a long time when recording with auto focusing. Do not cover here.

22 ZERO MEM (zero memory) button

Used to memorize the counter zero point.

23 RESET button

Press to reset the counter to zero.

24 DATE and TIME buttons 27

Press to display or turn off the date or time.

25 Eyecup

The eyecup is attached for the right eye.

For the left eye, detach the eyecup holder and attach it as illustrated.

26 Camera recording/battery lamp

Lights during camera recording. It blinks when the battery is exhausted.

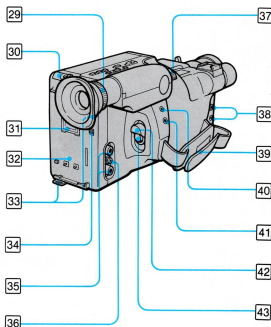
27 White balance sensor

This is the sensor for auto white balance adjustment.

During recording, do not cover the sensor.

28 Tripod receptacle

A-3



A-3

29 Viewfinder lens adjustment ring ⑫

Adjust to your eyesight to assure good focus. Be sure to adjust this ring when shooting for the first time.

30 Cassette eject button ⑪

31 Lithium battery compartment ⑩

32 Battery mounting surface

33 Hooks for shoulder strap
Attach a shoulder strap.

34 REC MODE (recording mode)/EDIT switch
Switch it depending on the operating mode.

Mode	Recording	Playback	Editing
Setting			
Function	REC MODE switch	EDIT switch	

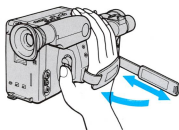
35 VIDEO/AUDIO OUT (output) jacks (phono jacks)

36 RFU DC OUT (RFU adaptor DC output) jack (special minijack)
Supplies power to the RFU-89EA/ASA RFU adaptor.

37 Power zoom button ⑫

38 MIC jack and DC OUT (microphone power output) jack
Connect an external microphone. The MIC jack accepts Sony "plug-in-power" microphones and supplies power to them.

39



39 Grip strap

Adjust the length so that your thumb can easily manipulate the START/STOP button.

40 REMOTE connector (stereo mini-minijack)

41 (earphone) jack (minijack)

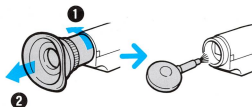
42 STANDBY switch

Slide up to set the unit to recording pause mode.

43 START/STOP button

Press to start and stop camera recording.

A-4



To remove dust from inside the viewfinder **A-4**

Detach the eyecup as illustrated and clean the surface of the Braun tube with a blower.

Power Sources

Selection of Power Sources

This manual shows the operations on one of the following power sources.

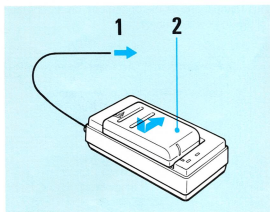
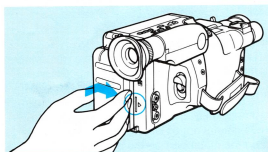
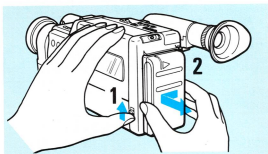
		Power source	Accessory to be used
Place	Indoors	House current	AC power adaptor AC-V30 (supplied) or AC-V55 (page 9)
	Outdoors	Battery pack	Battery pack NP-55 or NP-77 (page 8)
	In the car	12 V or 24 V car battery	AC power adaptor AC-V55 and car battery cord DCC-16AE (page 9)

Notes on power source

- Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted cassette tape. If this is done by accident, supply the power again immediately and turn on the power switch.
- Be careful not to let any metal object touched on the metal part on the battery pack or AC power adaptor. When the battery pack is not being used, keep it in its case.

Optional Accessories for Charging

- **AC-V55 AC power adaptor**
Two battery packs can be charged simultaneously.
- **BCA-70 or BCA-80 battery charge adaptor, ACP-88 AC pack and NPA-55 battery adaptor**
For charging, insert an NP-55 into the NPA-55.

B-1**B-2****B-3****B-4****Battery Pack — NP-55 or NP-77****First, charge the battery pack [B-1]**

Use the supplied AC-V30 AC power adaptor. The charging time is about 1 hour for an NP-55 battery pack, or about 2 hours for an NP-77 battery pack.

- 1 Connect the AC-V30 to a wall outlet.
- 2 Attach the battery pack to the AC-V30.
Align the grooves on the battery pack with those on the AC-V30, and while pressing the battery pack slide it as illustrated.

To attach the battery pack to the video camera recorder [B-2]

Align the right side of battery pack with the white line on the recorder, and while pressing the battery pack, slide it to the right. Make sure that the battery is fitted completely to the mounting surface. Imperfect fit may damage the projections on the recorder.

To remove the battery pack [B-3]

While pressing the BATT knob in the arrow direction, slide and pull out the battery pack as illustrated.

Battery life


A fully-charged NP-55 battery pack provides approximately 40 minutes of continuous camera recording, and an NP-77 provides approximately 80 minutes of continuous camera recording.

Notes

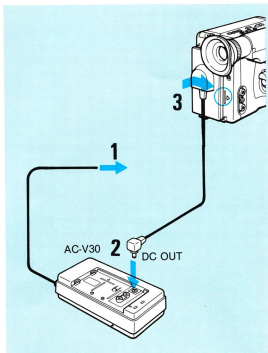
- The video camera recorder consumes power even in the recording pause mode. When recording short scenes using the recording pause mode, the battery life is less than half that of continuous recording. When recording is not to be started soon, turn off the power with the STANDBY switch.
- If the battery pack is not fully charged or if it is used in a cold place, or if the metal parts on the battery pack and the camera are dirty, its operating time is also shortened.

When the video camera recorder is not in use, remove the battery pack.
If the battery is installed, even if the POWER switch is set to OFF, a very small amount of electric current flows.

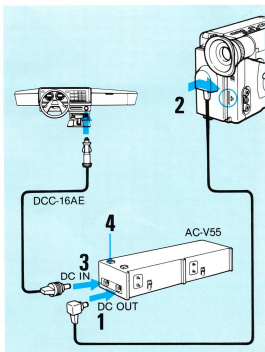
When the battery becomes weak [B-4]

The BATTERY indication and red lamp blink in the viewfinder and the  indication blinks in the display window. Replace the battery pack with the fully charged one.

B-5



B-6



Using the NP-22 battery pack

A fully-charged NP-22 battery pack can operate this unit for approximately 60 minutes. For using the NP-22, an optional NPA-22 battery adaptor is necessary.

House Current — Using AC Power Adaptor

B-5

- 1 Connect the AC power adaptor to a wall outlet.
- 2 Insert the connecting cord supplied with the AC-V30 AC power adaptor into the DC OUT jack on the AC power adaptor.
- 3 Align the right side of the connecting plate with the white line on the recorder, and while pressing the connecting plate, slide it to the right.

To remove the connecting plate for the AC power adaptor from the video camera recorder
While pressing the BATT knob on the recorder, slide and pull out the connecting plate.

The optional AC-V55 AC power adaptor can also be used to operate this recorder on house current.

Car Battery B-6

Use the DCC-16AE car battery cord and the AC-V55 AC power adaptor.

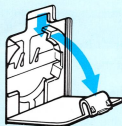
- 1 Insert the connecting cord supplied with the AC-V55 into the DC OUT jack on the AC-V55.
- 2 Align the right side of the connecting plate with the white line on the recorder, and while pressing the connecting plate, slide it to the right.
- 3 Connect the DCC-16AE car battery cord to the DC IN jack on the AC-V55 and to the cigarette lighter socket of a car (12 V or 24 V).
- 4 Press the POWER switch on the AC-V55.

After using, press the POWER switch on the adaptor again.

To remove the connecting plate from the video camera recorder

While pressing the BATT knob on the recorder, slide and pull out the connecting plate.

The optional DCP-55 DC pack (supplied with a car battery cord) can also be used to operate this recorder on a 12V or 24V car battery.

C-1**1****2****C-2****Lithium Battery [C-1]****To insert the lithium battery**

This unit uses a lithium battery to activate the clock and to keep a title in memory. Before operating the unit for the first time, install the supplied lithium battery:

- 1 Open the cover of the lithium battery compartment on the battery mounting surface.
- 2 Install the supplied CR2025 lithium battery with the \oplus side facing out.
- 3 Close the cover.

To remove the lithium battery [C-2]

Press the side of the battery in the direction as indicated for installation.

Lithium battery life

Approximately 1 year in normal operation.

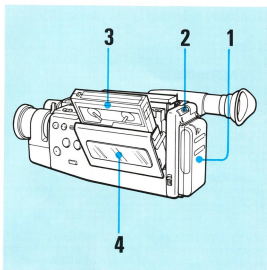
When the lithium battery becomes weak, the time indication will blink on the viewfinder screen for about 7 seconds. In this case, replace the battery with a Sony CR2025.

Notes on lithium battery

- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Do not break up the battery nor throw it into a fire, which might cause it to explode. Carefully dispose of the used batteries.

Cassette Care

D-1



Cassette Insertion **D-1**

- 1 Connect a power source.
- 2 Press and slide the cassette eject button.
The cassette holder will open.
- 3 Insert a cassette with the window facing outside.
- 4 Close the cassette holder.

Cassette Ejection

- 1 Make sure that a power source is connected.
- 2 Press and slide the cassette eject button.
- 3 Take out the cassette and close the cassette holder.

D-2



To Prevent Accidental Erasure **D-2**

Slide out the tab on the cassette so that it covers the opening. (A red mark will appear.)

To re-record on the cassette, slide the tab in to uncover the opening.

Notes

- Don't press the upper lid of the cassette compartment forcibly when it is moving.
- When the cassette holder is pressed to close, the upper lid of the cassette compartment will automatically lower.
- Never insert anything in the small holes on the rear of the cassette. These holes are used to sense the kind of tape, thickness of tape, or if the tab is out or in, etc.
- To record from the beginning of the tape, run the video camera recorder for about 15 seconds at the beginning of a cassette before recording. It will avoid missing the starting point during playback on a video cassette recorder.

Adjustment of the Position of the Viewfinder Lens

E

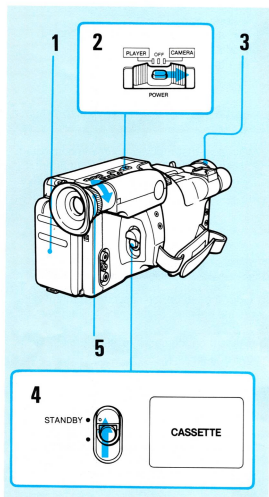
The position of the viewfinder lens for optimum vision varies depending on the person. **E**

- 1 Connect a power source.
- 2 While pressing the small button, set the POWER switch to CAMERA.
- 3 Remove the lens cap.
- 4 Slide the STANDBY switch up.
- 5 Turn the viewfinder lens adjustment ring so that the indicator displayed on the viewfinder screen comes into sharp focus.

Adjustment of the position of the viewfinder lens is necessary only for your initial use, or for use after someone else.

Note

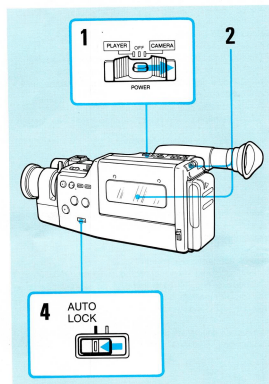
If you leave the unit in the recording pause mode for 5 minutes or more, the unit will be automatically turned off. To resume recording pause mode, slide the STANDBY switch down once and slide it up again.



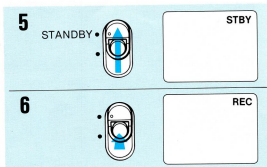
F-1



F-2



F-3



How to Record

Hold the camera recorder as in the illustration.
If your nose touches the recorder, adjust the angle of the viewfinder. **[F-1]**

[F-2]

- 1 While pressing the small button, set the POWER switch to CAMERA.
- 2 Insert the cassette.
- 3 Set the REC MODE/EDIT switch to LP or SP, according to the length of the programme to be recorded.

The recording time of a cassette in the LP mode is twice as long as that in the SP mode.

- 4 Set the AUTO LOCK switch to AUTO LOCK.
- 5 Slide the STANDBY switch up. **[F-3]**
- 6 Press the START/STOP button.

The unit will enter the recording pause mode.

Recording will start.

Check on the viewfinder screen

STBY: Displayed during recording pause mode.
REC: Displayed during recording.

To stop recording

Press the START/STOP button again.

The unit will enter the recording pause mode.

Avoid rough handling or mechanical shock to the unit. A smooth transition between scenes may not be made.

To check the last portion of the previous recording

- 1 Set the recorder in recording pause mode by pressing the START/STOP button.
- 2 Press the - EDITSEARCH button momentarily.

The last few seconds of the recorded portion are rewound and then the recorded picture is monitored on the viewfinder screen. The unit then enters the recording pause mode.

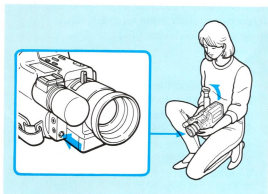
If the picture has not been recorded

The video head may be contaminated. Clean the heads using the Sony V8-25CL video head cleaning cassette.

After using

Slide the STANDBY switch down and set the POWER switch to OFF. (You need not press the center button when setting the switch to OFF.)

F-4



F-4

For low angle recording

The viewfinder can be turned 90 degrees up.

- 1 Slide the **STANDBY** switch up.
- 2 Press the **START/STOP** button on the front.

When attaching the lens hood, filter or conversion lens, hold the focus ring.

When removing, press it with the palm of your hand and turn it counterclockwise. **F-5**

Note on power source

If the **POWER** switch is moved during recording, the tape will stop.

Notes on light sources

- Should you shoot a subject in bright conditions such as sunlight just after shooting in a dark place, the picture may not appear on the viewfinder screen. In this case, move the camera away from the subject to resume the normal condition.
- A vertical band may appear when a subject such as a candle flame or a light is shot against a dark background.

Notes on playback on another VTR

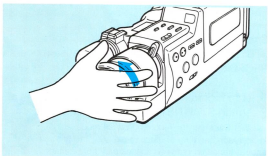
- To view the picture which has been recorded on this unit, set the monitor switch of the recorder for playback to the **STD** (standard) position.
- When recording on this unit using a tape on which **PCM** stereo sound has previously been recorded, set the monitor switch of the video cassette recorder for playback to the **STD** (standard) position. Otherwise, the sound may not be heard or may be distorted.

Notes on automatic adjustment

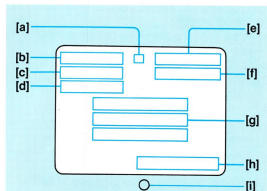
- During recording, do not cover the white balance sensor.
- During recording with auto focusing, do not turn or stop the focus ring forcibly.
- Keep the lens and the white balance sensor clean.

Under certain conditions, auto focusing will not operate properly (see pages 19 and 20).

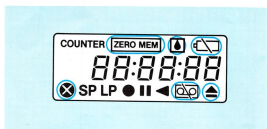
F-5



F-6



F-7



Indicators for caution

Display window [F-7]	Inside the viewfinder [F-6]
	BATTERY
	TAPE END
	CASSETTE
	DEW
	CAUTION

Indicators for the setting of the switch

Display window [F-7]	Inside the viewfinder [F-6]
	BACK LIGHT
ZERO MEM	ZERO MEM

Indications inside the Viewfinder and in the Display Window [F-6] [F-7]

[a] White mark

The FOCUS switch has been set to the manual condition.

[b] Shutter speed (see page 23.)

[c] Title colour (see page 30.)

[d] BACK LIGHT

The BACK LIGHT button has been pressed (see page 22).

[e] STBY

Recording is momentarily stopped (recording pause mode).

REC

Recording is going on.

[f] ZERO MEM

The ZERO MEM button has been pressed.

[g] BATTERY

Weak battery.

CAUTION

The slit in the head is clogged.

DEW

Moisture condensation inside the unit (see page 40).

CASSETTE

No cassette has been inserted or the safety tab of the inserted cassette is slid out.

TAPE END

The tape is at its end.

[h] Date or time (see page 27.)

[i] Camera recording/battery lamp

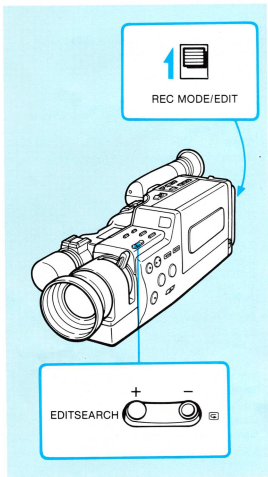
Lights during camera recording. It blinks when the battery is exhausted.

Notes

- Indications inside the viewfinder appear during camera mode only.
- blinks when moisture has condensed on the tape, or when the tape has approached its end during camera recording.

See page 7 for further information.

F-8

Instant Playback on the Spot **F-8**

You can monitor the picture just recorded on the viewfinder screen.

- 1 While pressing the small button, set the POWER switch to CAMERA.
- 2 Slide the STANDBY switch up.
- 3 Set the REC MODE/EDIT switch to the upper position.
- 4 Press the "-" side of the EDITSEARCH button to view the playback picture in reverse.
- 5 Press the "+" side of the EDITSEARCH button to view the playback picture.

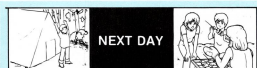
To resume recording in the LP mode, slide the REC MODE/EDIT switch down.

During Recording, to Record Again on the Previous Recorded Portion

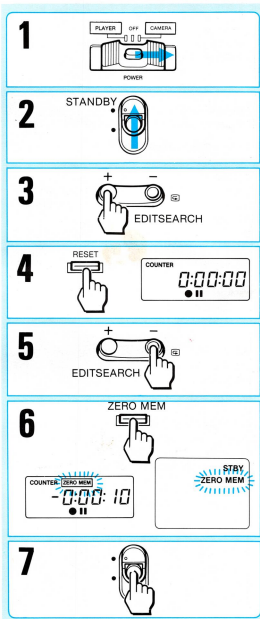
- 1 Slide the STANDBY switch up.
- 2 Set the REC MODE/EDIT switch to the upper position.
- 3 Locate the point from which the recording is to begin again by monitoring the picture on the viewfinder screen.
 - 1 Press the "+" side of the EDITSEARCH button to advance the picture at a normal playback speed, or the "-" side to reverse the picture.
 - 2 At the desired point, release the EDITSEARCH button.
The unit will be set to recording pause mode.
- 4 Set the REC MODE/EDIT switch to the previous recording mode.
- 5 Press the START/STOP button to start recording.

Smooth recording can be made even if the recording is stopped and started again, or even if the power is turned off and on again, provided that the cassette is not removed. But, if the cassette has been removed, proceed as above.

G-1



G-2



You can insert (record) video and audio simultaneously from the camera onto any recorded tape. **[G-1]**

Operation [G-2]

- Monitor the picture being inserted on the viewfinder screen.
- Select the same tape speed as was used for already recorded portion with the REC MODE/EDIT switch.

- 1 While pressing the small button, set the POWER switch to CAMERA.
- 2 Slide the STANDBY switch up to set the unit to recording pause mode.
- 3 Keep pressing the "+" or "-" side of the EDITSEARCH button and release the button at the point where the insert should **end**. The unit will be set to recording pause mode.
- 4 Display the counter in the display window and press the RESET button. The counter is reset to zero.
(For an accurate ending point, press the RESET button immediately after the EDITSEARCH button is released and while the still picture is displayed.)
- 5 Keep pressing the "-" side of the EDITSEARCH button and release the button at the point where the insert should **begin**.
- 6 Press the ZERO MEM button. The insert ending point is stored in memory.
- 7 Press the START/STOP button. Insert recording will begin.

The insert recording will stop automatically near the counter zero point.

To cancel ZERO MEM mode

Press the ZERO MEM button so that the ZERO MEM indicator disappears.

To insert the date or time

Follow steps 1 through 6 above, press the DATE or TIME button to display the date or time indication on the viewfinder screen and then press the START/STOP button.

Notes on ZERO MEM Mode

ZERO MEM mode is cancelled automatically in the following cases.

- When an insert recording is completed.
- When the position of the POWER switch is changed.
- When the power is turned off.
- When the cassette is ejected.

To restore it, press the ZERO MEM button again.

Notes

- When recording pause mode lasts for approximately 5 minutes, pause mode will be automatically released and the unit will be set to stop mode.
- When the inserted tape is played back, the picture may be distorted at the end of the inserted program.

H-1

Use manual focusing when shooting subjects difficult to focus automatically (listed on page 20).

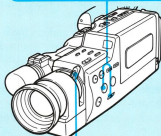
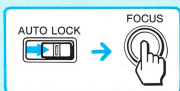
H-1

- 1 Set the AUTO LOCK switch to the right and press the FOCUS button.
- 2 Turn the manual zoom lever to the telephoto position (54) to make the subject as large as possible in the viewfinder.
- 3 Turn the focus ring to achieve sharp focus.
- 4 Set the desired shot length using the manual zoom lever.

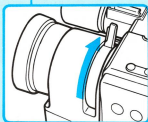
Some helpful hints

- When shooting a scene with lots of movement in bright light, the subject can be kept in good focus by setting the zoom lever to the wide-angle position and the focus ring to 2 m, regardless of the distance between the subject and the recorder.
- When shooting in low light situations such as indoors, the depth of field in proper focus is very shallow. For best results, shoot at wide angles, after focusing in telephoto.
- The figures on the focus ring indicate the distance between the subject and the lens surface.
- Recommended illumination of this unit is more than 300 lux (28 footcandles). If shooting is done indoors or under other circumstances where light is insufficient, video lights must be used for best results. Under adequate light condition, the depth of field in proper focus is wider and a sharper picture will be recorded.

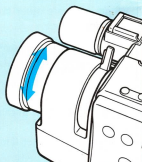
1



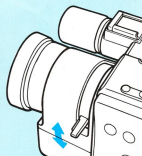
2



3



4



H-2

[a]



[b]



[c]



[d]



[e]



[f]



[g]



[h]



Poor Conditions for Auto Focusing H-2

To shoot subjects listed below you must use manual focusing.

[a] Black objects which absorb the infrared beam

Ex. dark curtains or shade

[b] Objects in which the infrared reflection disperses

Ex. a smooth slanting surface (Auto focusing functions when the camera is aimed squarely at the subject.)

[c] Objects in which the infrared reflection is not sufficient

Ex. bushes, grass or plants in the telephoto position

[d] Objects in which the infrared beam is reflected too much

Ex. traffic signs, a white wall, a mirror, or a subject through plate glass

[e] Objects not solid

Ex. fireworks, candle flame or smoke

[f] Extremely small objects which do not cover more than 1/10 of the viewfinder's area

Ex. insects

[g] When there are other objects between the shooting object

Ex. an animal inside a cage or baby inside a cot

[h] Moving objects

Ex. a crowd or sports with lots of movement

- Objects which emit infrared beams themselves

Ex. automatic doors or fluorescent lights

- Objects 10–60 meters (33–200 feet) away from the recorder

Other Uses of Manual Focusing

- When using special effects lenses or filters
- When shooting still subjects on a tripod
- To save battery wear
(When the AUTO LOCK switch is set to AUTO LOCK, the auto focusing operates to move the focus ring automatically even in recording pause mode. This causes the battery to wear continuously.)
- For focusing in close-up shooting, see page 26.

Auto focusing system of this camera recorder

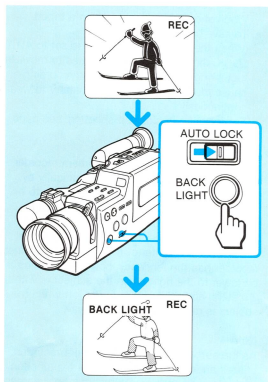
This recorder adjusts focus automatically by emitting an infrared beam at the objects to be shot and then detecting the reflected beam. When the subject is approximately 3 meters away from the camera recorder, the focus is sharpest in the center of the screen. The camera recorder has the tendency, however, to focus a bit lower to the right when the subject is within 3 meters, and a bit higher to the left when the subject is more than 3 meters away.

Note

As the auto focusing of this camera recorder utilizes an infrared beam, it might malfunction when you use the camera recorder near another equipment that also emits an infrared beam such as a TV or VTR remote commander, or another camera recorder that uses an infrared beam for auto focusing.

It might also cause malfunctioning of such equipment.

I



This unit adjusts the iris automatically. However, when shooting a subject that is backlit, set the AUTO LOCK switch to the right and press the BACK LIGHT button.

The BACK LIGHT Indication appears when the BACK LIGHT button has been pressed.

After shooting that particular scene, be sure to press the BACK LIGHT button again to release it. Otherwise the recorded picture will be too bright.

The BACK LIGHT indication goes out.

Note

The function will be released once the POWER switch is set to OFF.

Automatic White Balance Function

The automatic white balance function allows the unit to record an image with natural color tones in most kinds of light.

This insures that white will always recorded as white regardless of the light source.

Notes

- The auto white balance may not function under the following conditions.
 - Insufficient light
 - When lighting conditions change rapidly
 - When the camera is in a different light condition from the recorded subject
 - ex. when the subject is under a spotlight when the subject is outdoors and the camera is indoors
 - Special light sources such as a natrium lamp
- Do not cover the white balance sensor.

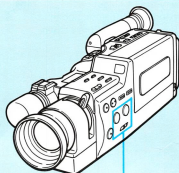
J-1



J-2



J-3



1



FOCUS



2

SHUTTER SPEED



When a fast-moving subject is recorded at a normal shutter speed, its still picture may not be seen when played back **J-1**. This can be improved by increasing the shutter speed **J-2**. The shutter speed of this unit can be selected from five speeds, 1/50 (normal speed), 1/4000, 1/1000, 1/250, 1/120.

However, when the shutter moves fast, it will not allow enough light to come into the lens, so the picture will be dark. Therefore, when recording at a high shutter speed, record in a brighter place than usual.

Choose an appropriate shutter speed according to the place and situation.

See the chart below for examples.

Example use	Recommended shutter speed
<ul style="list-style-type: none"> On clear days, recording golf or tennis scenes (To view the hit ball clearly in the pause mode, set to 1/4000) Recording the skiers 	1/4000 or 1/1000
<ul style="list-style-type: none"> On overcast days, recording a moving merry-go-round or jet-coaster Recording outdoors from inside a vehicle (for stable shooting) 	1/250
<ul style="list-style-type: none"> Instead of the ND2 filter (To reduce the exposure level to approx. 1/2) Recording indoors (for stable shooting) 	1/120

J-3

- Set the AUTO LOCK switch to the right and press the FOCUS button.
- Press the SHUTTER SPEED button repeatedly until the desired shutter speed indication appears on the viewfinder screen. Each time the SHUTTER SPEED button is pressed, the indication changes:

No indication → 4000 → 1000 → 250 → 120
 (1/50) (1/4000) (1/1000) (1/250) (1/120)

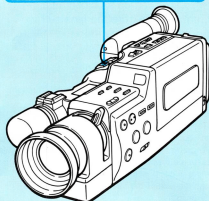
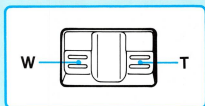
Auto focus will not function in this case. When shooting, use manual focusing.

Notes

- When shutter speed 1/250 or more is selected, recording must be done under sunlight or video light.
- When the recording is done under a light discharged tube, such as a fluorescent lamp, sodium lamp, or mercury lamp, the brightness of the recorded picture may vary ("flicker"). If flickers of fluorescent lamps affect the recording in 50 Hz areas, set the shutter speed to 1/120.
- When the shutter speed is changed during a camera recording of a TV screen, the brightness of the recorded picture may vary.
- When a very bright object is shot at a faster shutter speed, a light, vertical, belt-like line ("smear") may appear on the screen.

Zooming

K-1



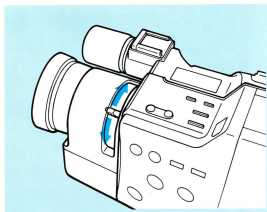
W



T



K-2



The size of the subject in the scene can be changed.

Power Zoom K-1

— for smooth and constant zooming

Press the T side of the power zoom button for telephoto and the W side for wide-angle. The zoom ring will move automatically.

Manual Zoom K-2

— to create a dramatic effect

Turn the manual zoom lever upward for telephoto and downward for wide-angle.

For more zooming effect

- Use an optional conversion lens (VCL-1546A or VCL-0746A). Auto focus, however, will not function in that case.
- The focal length of this unit is 9 mm to 54 mm. Converted into the focal length of a 35 mm camera, this means approximately F-48 mm to 288 mm.

L

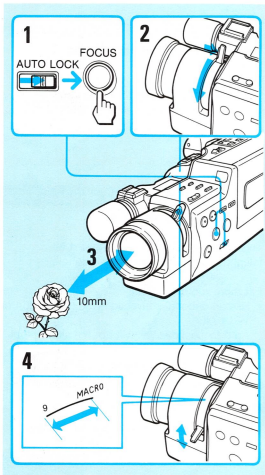
Even tiny objects can literally fill the screen for dramatic close-up effects.

Remove the lens hood before operation.

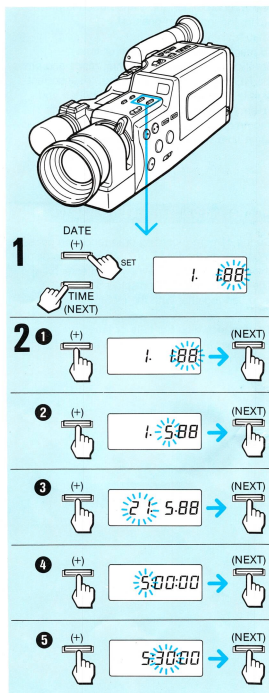
- 1 Set the AUTO LOCK switch to the right and press the FOCUS button.
- 2 Turn the zoom lever to the MACRO position, pressing the orange macro set button.
- 3 Bring the recorder as close as necessary to obtain the desired subject size.
The subject can be as close as approximately 10 mm ($1\frac{3}{32}$ in.) from the lens surface.
- 4 Turn the zoom lever within the MACRO range in orange to focus sharply.

Notes

- Auto focusing does not function properly in macro shooting.
- If the subject is closer than 10 mm, it cannot be brought into focus.
- When shooting in macro, the depth of field is very shallow, so pay attention to focus. To keep the subject in focus, use a tripod or monopod.
- Zooming is not possible during macro recording. To change the size of the subject, move the camera recorder closer or further away.



M-1



Once the date and the current time are adjusted, the date or time can be recorded together with the picture.

Before setting the date and time, make sure that the battery pack and lithium battery are installed.

To Set Date and Time M-1

- 1 Press the DATE and TIME buttons simultaneously **for more than 3 seconds**. The date indication will appear in the display window (date/time setting mode). The DATE button now functions as the + button and the TIME button functions as the NEXT button.
- 2 Adjust the ① year, ② month, ③ day, ④ hour and ⑤ minute in sequence, following the illustration. First adjust the blinking digits with the + button, and then press the NEXT button. After adjusting the minute digits, press the NEXT button at the same time with an announced time signal.

The clock starts operating. There is no need to readjust the date and time as long as the lithium battery remains.

To clear the time indication from the display
Press the TIME (NEXT) button again.

The + button can be pressed in two ways

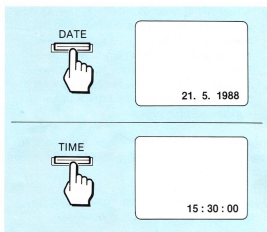
- When you keep the button pressed, the digits will advance continuously.
- When you press and immediately release the button, the digits will advance by one.

To check the preset date and time

Press the DATE or TIME button in the recording pause mode. When the same button is pressed again, the indication goes off.

To readjust an incorrect date or time

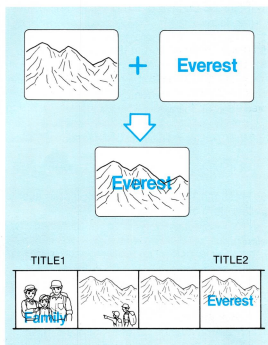
Set the unit to date/time setting mode and press the NEXT button repeatedly until the incorrect digit blinks. Correct it with the + button and press the NEXT button. After adjusting the minute digits, press the NEXT button at the same time with an announced time signal.

M-2**To Record the Date or Time M-2**

During camera recording or in recording pause mode, press the DATE or TIME button to display the date or time on the viewfinder screen. The date or time being displayed will be recorded together with the picture.

To stop recording the date or time

Press the DATE or TIME button again. The picture recording will continue.



Recording a Title

Before recording, memorize a title or figure. The memorized title or figure is superimposed onto the picture being recorded. [N-1]

- Two kinds of titles or figures can be memorized.
- The color of the title or figure can be selected from 8 colors.

Preparations

To make a desired title card

Use a white and plane card and draw the title on it with a deep color (black is recommended for the best result) in thick letters.

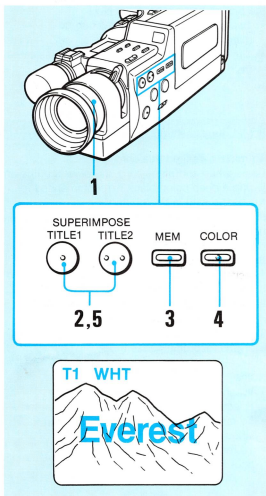
If contrast is clear, a signboard can be memorized like the title card.

Before memorizing the title

- 1 Make sure that the lithium battery is installed. See page 10.
- 2 While pressing the small button, set the POWER switch to CAMERA.
- 3 Slide up the STANDBY switch to set the unit in the recording pause mode.

Notes

- When deciding the title size, check the effective picture size on your video monitor.
- To record the title, fix the title card and the video camera recorder.
- To memorize a title, use of an appropriate light is recommended for a better result.

To Memorize the Title **N-2**

- 1 Point the camera to the title card and adjust the focus.
- 2 Press the TITLE 1 or 2 button.
- 3 Press the MEM button to memorize the title.
- 4 Select the title colour while observing the colour indication in the viewfinder. Each push on the COLOR button cyclically changes the colour, as follows:

WHT (white) → BLUE → GRN (green) → CYAN
 ↑ ↓
 BLK (black) ← YEL (yellow) ← VIO (violet) ← RED

- 5 Press the TITLE 1 or 2 button (pressed in step 2) to turn off the title.

Notes

- The colour indication in the viewfinder is not recorded on the tapes.
- You can change the title colour even after starting the recording.

To check the title

To check the memorized title, press the TITLE 1 or 2 button. To turn off the title, press the button again.

To Record the Title**To record the title from the beginning**

Press the TITLE 1 or 2 button in recording pause mode.

To record during camera recording

Press the TITLE 1 or 2 button at the point from which the title is to be inserted.

The memorized title will be recorded together with the picture.

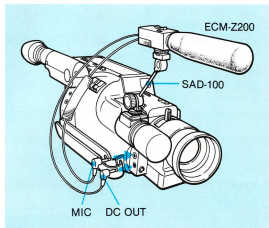
To stop recording the title

Press the TITLE 1 or 2 button again. The picture recording will continue.

To record the title several times

By repeating the above procedure, you can record the title as many times as desired.

O-1



The built-in microphone picks up sounds equally from all directions (omni-directional, monaural type).

By using an optional ECM-Z200 or ECM-K120 microphone, you can enjoy more efficient audio recording.

The **ECM-Z200** can zoom the sound as the lever is slid.

First, attach to the optional SAD-100 external microphone shoe. **O-1**

The **ECM-K120** can pick up sound in 3 zones and switch from zone to zone as the selector is set. **O-2**

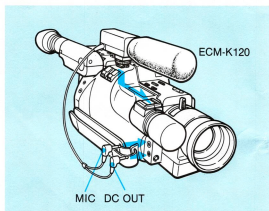
A variety of optional microphones.

- Omni-directional microphone: To pick up sounds equally from all directions
- Uni-directional microphone: To pick up specific sounds
- Supercardioid microphone: To isolate a sound
- Zoom microphone: To allow the field of recording to be changed.

Note

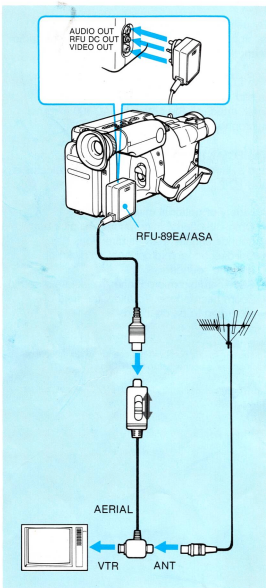
The built-in microphone will not operate when an optional microphone is connected to the MIC jack.

O-2



Preparation for Playback

P-1



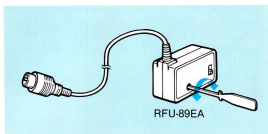
Connecting a TV without audio/video input connectors **P-1**

- 1 Connect the RFU-89EA/ASA RFU adaptor to the CCD-F340E.
- 2 Connect the aerial, CCD-F340E and TV to the aerial selector (supplied with the RFU-89EA/ASA).
Use a 75-ohm coaxial cable for aerial connection.
- 3 RFU-89EA only: Set the I/G selector according to the TV system of your country.
- 4 Adjust one of the TV programme positions to receive the signal from the video camera recorder. See "Adjusting the TV" below.
- 5 Set the selector switch on the aerial selector as follows:

For viewing a playback picture → VTR
For viewing TV programmes → ANT

- 6 Select the same programme position on the TV as that selected in adjusting the TV.

P-2



Adjusting the TV with the RFU-89EA

- 1 Turn on the TV and select a programme position which is not being used to receive a TV station.
- 2 Set the POWER switch of the CCD-F340E to CAMERA and slide the STANDBY switch up.
- 3 Set the selector switch of the aerial selector to VTR.
- 4 Tune the TV until you see the picture and hear the sound from the CCD-F340E.

If the playback picture is not free of disturbance

- 1 Set the selector switch of the aerial selector to ANT.
- 2 Adjust the programme position of the TV to a channel between UHF channels 30 and 39 with the tuning control or the fine tuning control on the TV, so that the TV screen shows no picture and so that a steady rustling sound or no sound is heard.
- 3 Set the selector switch of the aerial selector to VTR.
- 4 Slowly turn the RF channel of the RFU-89EA with the supplied screwdriver, until the picture from the CCD-F340E becomes clear. [P.2]
Now the TV adjustment is complete.

Adjusting the TV with the RFU-89ASA

Select the CHANNEL selector on the RFU-89ASA to 0 CH or 1 CH, whichever is not active in your area, and select the same channel on the TV.

P-3

Connecting a TV (or colour monitor) equipped with audio/video input connectors **P-3**

Leave the TV aerial cable connected to the TV.

1 Connect the CCD-F340E to the TV using an optional connecting cable to match the connectors on the TV.

[a] VMC-262M: to a 6-pin DIN connector

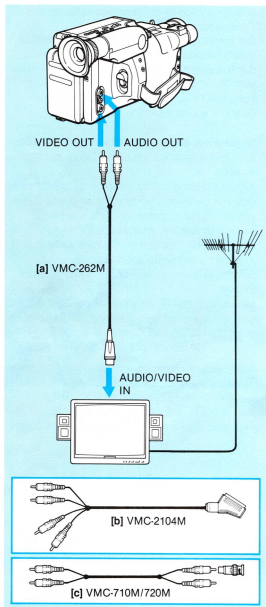
[b] VMC-2104M: to a 21-pin connector (EUROCONNECTOR)

[c] VMC-710M/720M: to phono and BNC-type connectors

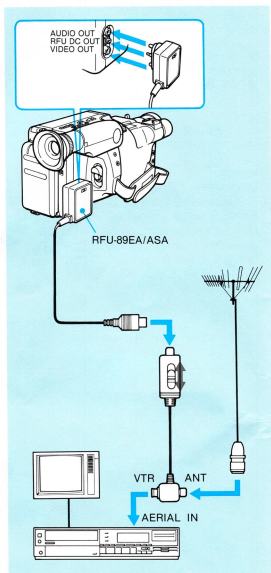
2 Set the TV/VIDEO selector button on the TV as follows:

For viewing a playback picture → VIDEO

For viewing TV programmes → TV



P-4



Connecting a TV connected to another VTR without an input selector **P-4**

Connect the RFU-89EA/ASA RFU adaptor to the CCD-F340E.

- 1 Connect the RFU-89EA/ASA, aerial, and the VTR to the aerial selector (supplied with the RFU-89EA/ASA).
Use a 75-ohm coaxial cable for aerial connection.
- 2 RFU-89EA only: Set the I/G selector according to the TV system of your country.
- 3 Adjust one of the TV programme positions to receive the signal from the video camera recorder. See "Adjusting the TV" on page 33.
- 4 Set the selector switch on the aerial selector as follows:

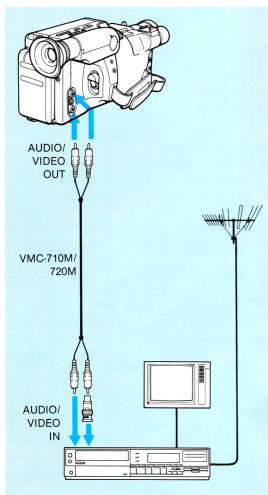
For viewing a playback picture → VTR
For viewing TV programmes and playback picture of the VTR → ANT

- 5 Select the same channel on the TV as that selected in adjusting the TV.

Connect the others as shown in the illustration.

Playback

- 1 Turn on the TV.
- 2 While pressing the small button, set the POWER switch on the CCD-F340E to PLAYER.
- 3 Set the selector switch on the antenna selector to VTR and select the channel for the VTR on the TV.
- 4 Insert a cassette into the CCD-F340E and press the < button. Playback will start.



Preparation for Playback

Connecting a TV connected to another VTR with an input selector **P-5**

Use the optional VMC-710M/720M connecting cord.

Set the selectors on the VTR as follows:

Input selector → LINE

TV/VTR selector → VTR

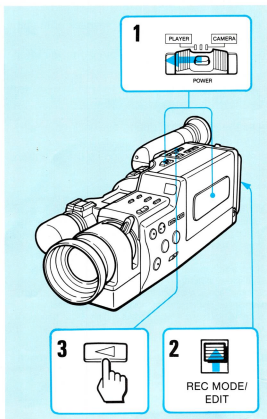
Note

When the VTR to be connected has stereo audio inputs, use the optional VMC-910MS/920MS connecting cord.

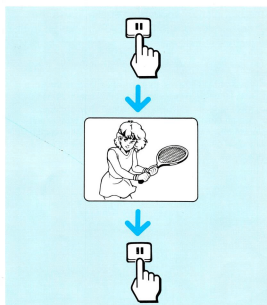
Playback

- 1 Turn on the VTR and TV.
- 2 While pressing the small button, set the POWER switch on the CCD-F340E to PLAYER.
- 3 Set the input selector on the VTR to LINE and select the channel for the VTR on the TV.
- 4 Insert a cassette into the CCD-F340E and press the ◀ button. Playback will start.

Q-1



Q-2



Turn on the TV (or colour monitor), and select the programme position for viewing a playback picture (or set the TV/VIDEO selector to VIDEO).

Q-1

- 1 While pressing the small button, set the POWER switch to PLAYER, and insert a cassette.
- 2 Set the REC MODE/EDIT switch in the upper position.
The unit detects the recorded mode of the tape, and adjust the tape speed automatically.
- 3 Press the ◀ button.
Playback will start.

To stop the tape, press the ■ button.

After using, be sure to set the POWER switch on the recorder to OFF.

To view a still picture Q-2

Press the ■ button during playback. To resume playback, press the ■ button again.

Monitoring a High-Speed Picture

During playback

- 1 In the playback mode, press the ◀◀ or ▶▶ button.
The picture will be monitored at high speed as long as it is kept pressed.
- 2 Release the ◀◀ or ▶▶ button at the desired point.
Normal playback will resume.

To View the Frame-by-Frame Playback Picture

Press the **◀||** button during playback or in still picture mode.

To resume normal playback, press the **◀** button.

To View the Slow Motion Picture

Press the **◀I** button during playback or in still picture mode.

To resume normal playback, press the **◀** button.

Notes

- If you move the position of the POWER switch during playback, the tape will stop. When you move the POWER switch to CAMERA in the playback pause mode, however, the unit will enter recording pause mode.
- When the pause mode lasts for 5 minutes or more, the unit will automatically enter the stop mode.
- Streaks will appear and the sound will be muted in the high-speed picture.
- When a tape is recorded in SP mode, a still picture and high-speed picture may be noisy with many streaks and become black and white. Streaks will be wider than those of an LP-recorded tape.

To adjust the frame-by-frame and slow playback pictures

In slow playback mode, press the "+" or "-" side of the EDITSEARCH button until a clear picture is obtained.

Repeat adjusting until a still picture is displayed clearest.

To adjust the still picture

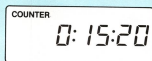
If the still picture appears to shake, press the "+" or "-" side of the EDITSEARCH button until the picture stabilizes.

Note

The adjustment is retained in memory as long as the lithium battery is installed. Readjustment is only required when the equipment used for playback is changed or when tapes recorded on other equipment are played back on this unit. The noise may not be eliminated completely when a tape recorded on other equipment is played back in still or slow picture mode.

Use of the Tape Counter

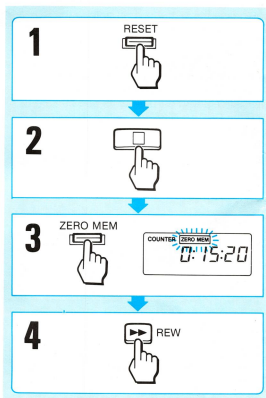
R-1



During recording or when a tape recorded in the SP mode is played back, the digits on the counter indicate the actual recording or playback time. When a tape recorded in LP mode on another recorder is played back on this unit, the counter counts approximately half the actual playback time.

E.g. When the counter indicates "0:15:20" during playback of an LP-recorded tape, the tape was played back for approximately 30 minutes 40 seconds from the counter zero position. [R-1]

R-2



To Index the Whole Tape

Press the RESET button at the beginning of the tape so that the counter shows "0:00:00". By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.

Notes

- The counter reading and the point of the tape may not correspond exactly.
- The counter also operates for a blank, unrecorded portion of a tape.
- There will be a time lag of several seconds on the counter reading after repeated fast-forward and rewind operations or after playing back in slow mode for a long time.

To Return to a Pre-registered Point [R2]

- 1 During recording or playback, press the RESET button at the point you later want to locate.
- 2 Press the ■ button when the recording or playback has finished.
- 3 Press the ZERO MEM button. The "ZERO MEM" indicator will blink in the display window.
- 4 Press the ►► or ◀◀ button.
The tape will be rewound or sent forward and stop automatically when the counter reaches approximately zero.

Notes

- The ZERO MEM button does not function during recording or playback mode.
- Be sure to press the ZERO MEM button when the tape is stopped.
- The ZERO MEM mode is cancelled automatically once the tape is rewound or sent forward to zero.

To edit a home movie tape, you will need another VTR or another video camera recorder.

To Edit from the CCD-F340E to Another VTR

- 1 While pressing the small button, set the POWER switch on the CCD-F340E to PLAYER and turn on the other VTR.
- 2 Slide the REC MODE/EDIT switch on the CCD-F340E to EDIT.
- 3 Set the input selector on the VTR to LINE.
- 4 Press the **II** button on the CCD-F340E during playback at the point where you want to start recording.
- 5 Press the record button on the other VTR, pressing the **II** button.
- 6 Release the **II** buttons on both units. Recording will start.

When the VTR to be used is a stereo type, use the VMC-910MS/920MS connecting cord.

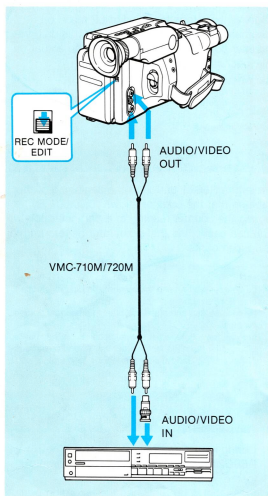
After editing, turn off both units and be sure to slide the REC MODE/EDIT switch to the upper position.

To cut off an unnecessary portion

Press the **II** button on the recorder at the beginning of the unnecessary portion.
Release it where you want to resume recording.

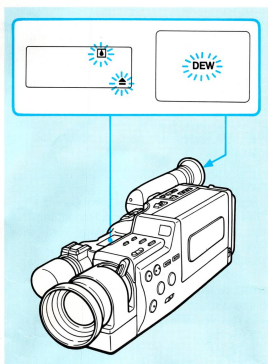
Function of the REC MODE/EDIT switch

Slide this switch down whenever you edit tapes. Signal loss that results from tape-to-tape transfer will be reduced, achieving more accurate signal transfer.
When recording or playing back normally, keep this switch in the upper position.





Notes on Moisture Condensation

T



If the unit is brought directly from a cold to a warm location, moisture may condense inside the unit, on the surface or the tape or on the lens. In this condition, the tape may adhere to the head drum and be damaged or the unit may not operate correctly. To prevent possible damage under these circumstances, the unit is furnished with moisture sensors.

Moisture is present inside the unit when: T



- The DEW indicator blinks inside the viewfinder.
- The  and  indicators blink in the display window.

No function except for cassette ejection will work.




Eject the cassette if present, and turn off the unit and leave it with the cassette holder open at least for one hour.




The unit can be used again if none of the DEW,  and  indicators appears when the power is turned on again.

If moisture is present on the surface of the tape.

When the tape is inserted and a tape transport button is pressed, the  indicator blinks in the display window. No function except for cassette ejection will work.



Eject the cassette and let the unit and the cassette sit at least for one hour.

The cassette can be used again if the  indicator does not appear when the cassette is inserted and a tape transport button is pressed.

If moisture condensation occurs on the lens

There are no caution indicators, but the lens becomes dim. Turn off the power and leave the unit unused at least for one hour.

Operation

- Operate the unit on 6–8.5V DC.
- For DC or AC operation, use the accessories recommended in this manual.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not hold the unit by the viewfinder.
- Avoid rough handling or mechanical shock to the unit. Be particularly careful of the lens.
- Do not apply excessive force to the microphone.
- Avoid shooting the same object for a long period of time (for example, using as a lookout camera or pointing the camera directly at the sun or other bright light sources) as this will damage the color filter inside the camera and may cause a poor picture quality.
- Remove and store video cassettes after recording or playback.
- Do not wrap up the unit and operate it because heat may build up internally.
- Avoid using and storing the recorder in the following locations.
 - Locations susceptible to vibration.
 - Locations exposed to strong magnetic fields.
 - Locations near TV or radio transmitters where strong radio waves are generated.
- Do not put the unit on the sand.

Each country has special TV colour broadcast and electricity systems. Before using your recorder abroad, check the following points.

Differences in colour systems

If you prepare fully charged battery packs and the AC power adaptor which can be used in all areas with the local power supply of 100V–240V, you can use your recorder in any country. You can monitor the playback picture on the viewfinder screen. However, to monitor the playback picture on a TV, the TV must be based on the PAL system and have the video/audio inputs.

PAL system countries

Australia, Austria, Belgium, China, Denmark, Finland, Great Britain, Holland, Hong Kong, Italy, Kuwait, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, West Germany, etc.

NTSC system countries

Bahama Islands, Canada, Central America, Japan, Korea, Mexico, Taiwan, the Philippines, U.S.A., etc.

SECAM system countries

Bulgaria, France, Hungary, Iran, Iraq, Luxemburg, Monaco, Poland, the Soviet Union, etc.

Care

- Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
- When the unit will not be used for a long period of time, periodically turn on the power, operate the camera section and recorder section and play back a tape for about three minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on them, remove them with a soft cloth. Clean the recorder body with a dry, soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
For protection, keep the lens cap on the lens when not using the camera.

Specifications

System

Video recording system	Rotary two heads, Helical scanning FM system
Audio recording system	Rotary head, FM system
Video signal	PAL colour, CCIR standards
Usable cassette	8 mm video format cassette
Tape speed	SP: Approx. 20.051 mm/sec. LP: Approx. 10.058 mm/sec.
Recording time	SP mode: 1 hour 30 min LP mode: 3 hours (P5-90)
Playback time	SP mode: 1 hour 30 min LP mode: 3 hours (P5-90)
Fast forward time	Approx. 6 min. 30 sec. (P5-90)
Image device	CCD (Charge Coupled Device)
Viewfinder	Electronic viewfinder (black and white)
Lens	Combined 6 × power zoom lens f = 9-54 mm, F1.4 with macro Filter diameter: 46 mm
Auto focus system	Infrared autofocus
Colour temperature	Auto: From the light at a tungsten lamp to the light on a slightly overcast day.
Minimum illumination	7 lux
Illumination range	7 lux-100,000 lux (0.7-9,294 footcandles)
Recommended illumination	More than 300 lux (28 footcandles)
Aperture correction	Automatic

Input and output connector

Video output	Phono jack, 1 Vp-p, 75 ohms unbalanced sync negative
Audio output	Phono jack, -10dBs, at output impedance less than 2.2 kilohms
RFU DC OUT	Special minijack, 5V DC
Earphone jack	Minijack, 8-ohm impedance
Remote jack	Stereo mini-minijack
MIC jack	Minijack, -66 dBs, low impedance With 2.5-3 V DC output, impedance 6.8 kilohms
Microphone power output jack	Special minijack, 5 V DC

Display in the viewfinder

Mode and caution indicators
Mode: REC/STBY
BACK LIGHT
ZERO MEM
Caution: BATTERY
DEW
TAPE END
CASSETTE
CAUTION
Time/date indication
Title color indication
Shutter speed indication

General

Power requirements	Battery compartment 6 V/7.5 V
Power consumption	6.5 W (camera recording) including the viewfinder
Installation	Vertically
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Dimensions	Approx. 116 × 127 × 302 mm (w/h/d) (4 ⁵ / ₈ × 5 × 12 in.)
Weight	Approx. 1.1 kg (2 lb 7 oz) excluding the battery and cassette
Microphone	Electret condenser microphone, omni-directional monaural type
Supplied accessory	Lithium battery CR2025 (1)

Optional accessories

Battery pack NP-55, NP-77
AC power adaptor AC-V55
Car battery cord DCC-16AE
Connecting cable
VMC-910MS/920MS (2 phono to 3 phono),
VMC-710M/720M (2 phono to 2 phono),
VMC-262M (2 phono to 6-pin),
VMC-2104M (4 phono to 21-pin)

Design and specifications are subject to change without notice.

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information about the optional accessories available in your country.

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

Troubleshooting

If you think you have a problem, double-check before calling the serviceman.
You may have overlooked something relatively simple!

Symptom	Cause (Trouble indicator)	Procedure
The power will not turn on.	The battery is not attached.	Attach the battery.
	The battery is exhausted.	Use a new battery.
	The AC power adaptor is not connected to a wall outlet.	Connect the adaptor to a wall outlet.
The START/STOP button does not operate.	The tape is affixed to the drum.	Remove the cassette with the cassette eject button.
	The tape is at its end. (TAPE END)	Rewind the tape or use a new one.
	The POWER switch is set to PLAYER.	Set it to CAMERA.
	The tab on the cassette is out (red). (CASSETTE)	Use a new cassette or slide the tab.
The tape does not move when a tape transport button is pressed.	POWER switch is set to CAMERA or OFF.	Set it to PLAYER.
	The tape is at its end.	Rewind the tape or use a new one.
The power turns off.	While being operated in the CAMERA mode, the recorder has been in the pause mode for more than 5 minutes.	Slide down the STANDBY switch, and slide it up again.
	The battery is exhausted. (BATTERY)	Use a charged battery.
A vertical band appears when a subject such as lights or a candle flame is shot against a dark background.	The contrast between the subject and background is too high; the camera is not malfunctioning.	—
The battery pack is quickly discharged.	The ambient temperature is too low.	—
	The battery pack has not been charged fully.	Charge the battery pack again.
The cassette cannot be removed from the compartment.	The battery is exhausted.	Use the charged battery or the AC power adaptor
The auto focusing function does not work.	The AUTO LOCK switch is set to the right and the FOCUS button is set to manual (■).	Set the AUTO LOCK switch to AUTO LOCK.
	Shooting conditions are not suitable for auto focusing operation. (See page 20.)	Focus manually.
The colour of the playback is not appropriate.	The white balance sensor is covered.	Clear the sensor.
The image on the viewfinder screen is not clear.	The viewfinder lens is not adjusted.	Adjust the viewfinder lens.
The playback picture is not clear.	The REC MODE/EDIT switch is set to the "EDIT" position.	Set the REC MODE/EDIT switch to the upper position.
	The programme position for the VTR is not adjusted on the TV.	Adjust the TV.

Symptom	Cause (Trouble indicator)	Procedure
The playback picture is too bright.	The BACK LIGHT button was not released during recording. (BACK LIGHT)	—
The picture is noisy.	The video heads may be contaminated.	Clean the heads using the Sony V8-25CL video head cleaning cassette. For details on cleaning, refer to the instructions furnished with the cleaning cassette. If the V8-25CL cleaning cassette is not available in your area, have the heads cleaned at the nearest Sony service facility.
No function except for cassette ejection works.	Moisture condensation has occurred. (See page 40.) (DEW)	Remove the cassette and leave the unit for at least an hour.
The indicators in the viewfinder blink.	The lithium battery is not installed. (COUNTER)	Install the lithium battery.
	The lithium battery is exhausted. (COUNTER)	Use a new battery

Hints for Better Shooting

The key to success — practice makes perfect!

Record over and over using the same tape...
see what you've recorded on TV as soon as
you're finished...

these are just two of the advantages of video
recording.

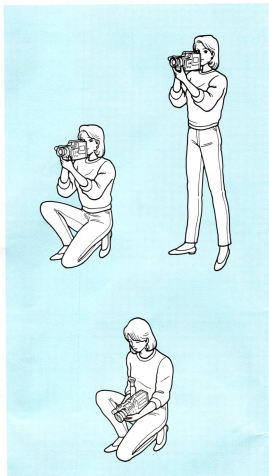
The more you use your recorder, the more
professional you'll become.

In this section, we'd like to introduce some basic
techniques to help bring more enjoyment to your
video recording.

Video 8

Handycam

A



Getting stable pictures — starts with a correct stance

For hand-held shots, shooting position is the key.

Using three basic positions as a reference, practice shooting positions until you find the stance which provides the easiest shooting and best results. **A**

Basic shooting positions

- When kneeling, placing one knee on the ground provides the best stability.
- Place the eye firmly against the viewfinder eyecup.
- For hand-held shots, place your left hand under the camera recorder to support it. Make sure the unit does not move.
- Relax your shoulders.
- Put your right elbow firmly against your side to help stabilize the video camera recorder.
- If you are going to move the unit while recording, keep both eyes open as much as possible.
- Stand firmly with your feet comfortably apart. Leaning against something firm such as a wall or tree will also provide extra stability.

Use a tripod or monopod if possible

If you have a tripod for your still camera, it can also be used with the video camera recorder. Use a sturdy one.

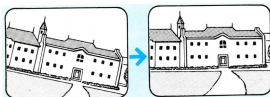
If a tripod is not available, try placing the camera on a tabletop, wall, or any other flat surface of suitable height.

Keeping the horizontal plane level

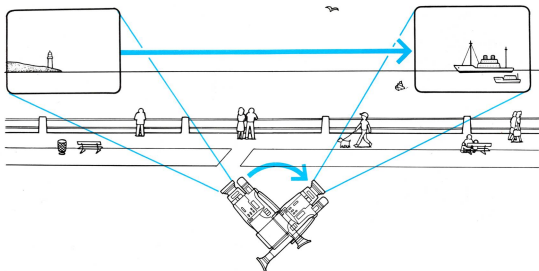
Even if camera work is smooth and stable, shots can be tilted or off axis horizontally.

The horizontal plane can be easily determined by using the viewfinder frame as a reference. **B**

B



C



Three frequently used shots

These three types of shots will bring additional action and movement to your scenes when properly used.

For greatest effect, it is advisable that they not be overused.

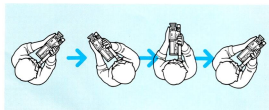
Panning — moving the camera horizontally

C

For emphasizing the grandeur of a scene, and for including all of the scenery in a single continuous shot.

- Hold the recorder on the scene for a few seconds at the beginning and end of the pan.
- Pan slowly across the scene. (Stop at about 90°.)

D

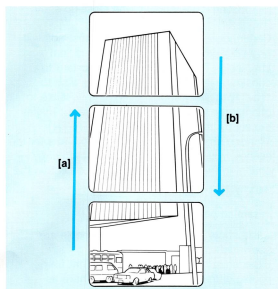


For professional-looking pans

D

- 1 First, stand so that you face in the direction where the pan will end.
- 2 Without moving your feet, rotate your upper body so that your recorder faces the direction where the scene will begin.
- 3 Start shooting. Rotate your body slowly to the point where the pan will stop.

E



The best panning speed is one that will allow you to explain the scene during playback.

Repeated pans of the same scene should be avoided.

If you can hold your breath during panning and zooming, camera shake can be minimized, and you can concentrate more easily on the scene.

Tilting — moving the camera vertically **E**

To emphasize height....tilt up. [a]

To emphasize the final part of the scene...tilt down. [b]

Tilting shots with the video camera recorder should be slightly faster than pans.

Zooming — changing the size of the subject

To draw attention to something specific ...zoom in. **F**

Because telephoto shots make camera shake more noticeable, the recorder should be as stable as possible.

To end the shot by making the circumstances surrounding the scene understood...zoom out. **G**

F



G



H**Sizing the scene**

— mixing long, medium and close-up shots

Continuous use of long shots or close-ups will give your productions a monotonous “flat” impression. To avoid this, it is important to consider exactly what it is that you wish to “say” with every shot. Indeed, it is possible to change the impression that any subject makes merely by changing the way it’s shot. **[H]** You don’t have to change the subject to alter the scene—you can achieve a different effect by changing the size of the subject itself within the scene.

I**[a-1]****[a-2]**

Basic shots for properly framing people are shown left. **[I]**

Experience has shown that shots that frame people differently than this do not have as pleasant an effect.

[a-1] Face shot

Even if you cut off the hairline, don’t cut off the chin.

[a-2] Face shot

When shooting a profile, leave the space in front of the face to create a “sight line.”

[b]**[c]****[b] Bust shot—Chest and above****[c] Waist shot—Upper hips and above****[d] Knee shot—Knees and above****[e] Full shot—Entire body****[d]****[e]**

Lighting — For the sharpest pictures, you need the best light

For the most brilliant colour in your scenes, a sufficient light level must be maintained. If shooting is done indoors or under other circumstances where light is insufficient, lights must be used for best results.

What kind of light is best? Choosing the right lights

Photography lamps or halogen lamps are recommended. For best results, use of the Sony video lights (HVL-50DA, etc.) are recommended as their weight and low heat output levels allow safe, direct connection to the camera.

For lighting of a wide area for easy use—
reflector flood light

To emphasize the subject—use a reflector spotlight.

Lighting the subject

The number of lights and their angle to the subject can make a significant difference in lighting effectiveness.

With a single light:

Locate it above and to one side of the subject. With just one light, contrast is unavoidably enhanced.

To eliminate shadows, another light should be added.

With two lights:

Locate one light above and to one side of the subject, and the second to the side of the subject in such a position that the shadows are eliminated.

If contrast is too strong when lights are used, point a light at the ceiling or reflect it off a sheet of white paper to add soft fill-in light.

Precautions for using lights

- Do not point the light at the recorder body. Instead, make sure that it is pointed parallel to the camera or away from it. Be especially careful with lights attached to the accessory shoe. The high heat from the lights pointed at the camera body can warp the cabinet.
- Lights weighing over 500 g (1 lb.), or floodlights (lights with wide dispersion) must not be attached to the accessory shoe, as the heat from the light will warp the cabinet. Use of a special light stand is recommended.
- Lights become extremely hot during use—do not touch them!
- Do not mix different types of light, as light color temperatures vary and can cause the subject's colour to be recorded incorrectly.

For detailed instructions on proper use of lights, carefully read the instruction manuals that accompany them.

Brightness levels

The single greatest influence on picture quality is the brightness level. Using the following chart as a reference, take a few minutes to familiarize yourself with brightness levels to improve your recording.

ND filter required	Unit: lux	Snow-covered mountains Snow fields Sandy beach, clear day in summer
Normal recording	100,000	Clear day, mid-day (100,000) Clear day, mid-afternoon (35,000) Overcast day, mid-day (32,000)
	10,000	
	1,000	Overcast day, one hour after sunrise (2,000) Office lit by fluorescent lamps, near window (1,000) Clear day, one hour before sunset (1,000)
	500	Department store counter (500-700) Station wicket (650) Office lit by fluorescent lamps (400-500) Room lit by two 30 W fluorescent lamps (300)
Video light recommended	300	Subway station platform (300)
Video light required	100	Arcade at night (150-200)
	10	Theater lobby (15-35) Candle light (10-15)

When to use an ND filter

Exceptionally bright scenes such as sunny days at the beach in summer or on snow fields in winter will look "washed out" when recorded. To make these scenes recorded naturally, an ND filter is required. (Refer to the chart)

Three types are available—ND2, ND4, ND8 — which reduce the exposure level to 1/2, 1/4, and 1/8, respectively.

Select filters to match the lens diameter of 46 mm.

To make sure you don't miss those "once in a lifetime" scenes, go over the following check list and make the necessary preparations.

Required for recording

CCD-F340E

Battery pack NP-55 or NP-77

Is it charged?

Are there enough battery packs to cover the planned recording time?

Cassette tapes

Have you prepared enough tapes to cover the planned recording time?

Convenient accessories

Carrying case

Shoulder strap

Tripod

Required for scenes in which stability of the camera is important. Tripod mount screw must match the receptacle mount.

AC power adaptor

Used to operate the video camera recorder on house current and to charge battery packs

RFU adaptor RFU-89EA/ASA

Adaptor for connection to a TV or VTR which is not equipped with video/audio inputs.

Video light HVL-50DA

Required for recording in low light situations.

Earphone (miniplug)

Permits monitoring of audio signal during recording.